flametight connections and firmly secured to withstand vibration, shock, and engine backfire. Such installations do not require formal approval and labeling but must comply with this subpart.

(c) *Exhaust manifold.* The exhaust manifold shall either be water-jacketed and cooled by discharge from a pump which operates whenever the engine is running, or woodwork within nine inches shall be protected by ¼-inch asbestos board covered with not less than No. 22 USSG (U.S. standard gage) galvanized sheet iron or nonferrous metal. A dead air space of ¼-inch shall be left between the protecting asbestos and the wood, and a clearance of not less than two inches maintained between the manifold and the surface of such protection.

(d) *Exhaust pipe.* (1) Exhaust pipe installations must conform to the requirements of ABYC P–1 and part 1, section 23 of NFPA 302 (both incorporated by reference; see 46 CFR 58.03–1) and the following additional requirements:

(i) All exhaust installations with pressures in excess of 15 pounds per square inch gage or employing runs passing through living or working spaces shall meet the material requirements of part 56 of this subchapter.

(ii) Horizontal dry exhaust pipes are permitted only if they do not pass through living or berthing spaces, they terminate above the deepest load waterline and are so arranged as to prevent entry of cold water from rough or boarding seas, and they are constructed of corrosion resisting material ''at the hull penetration.''

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 88–032, 56 FR 35824, July 29, 1991; USCG–2003–16630, 73 FR 65187, Oct. 31, 2008]

§58.10–10 Diesel engine installations.

(a) The requirements of §58.10–5 (a), (c), and (d) shall apply to diesel engine installations.

(b) A diesel engine air intake on a mobile offshore drilling unit must not be in a classified location.[1]

(c) A diesel engine exhaust on a mobile offshore drilling unit must not discharge into a classified location.[1]

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 73–251, 43 FR 56801, Dec. 4, 1978; CGD 95–028, 62 FR 51202, Sept. 30, 1997]

§58.10–15 Gas turbine installations.

(a) *Standards.* The design, construction, workmanship and tests of gas turbines and their associated machinery shall be at least equivalent to the standards of the ABS Steel Vessel Rules (incorporated by reference, see 46 CFR 58.03–1).

(b) *Materials.* The materials used for gas turbine installations shall have properties suitable for the intended service. When materials not conforming to standard ASTM specifications are employed, data concerning their properties, including high temperature strength data, where applicable, shall be furnished.

(c) *Exhausts.* (1) Where piping is used for gas turbine exhaust lines, Class II is required as a minimum. (See subpart 56.04 of this subchapter.) Where the exhaust pressure exceeds 150 pounds per square inch, such as in closed cycle systems, Class I shall be used. Where ducting other than pipe is employed, the drawings and design data shall be submitted to substantiate suitability and safety for the intended service.

(2) Where considered necessary, gas turbines and associated exhaust systems shall be suitably insulated or cooled, by means of lagging, water spray, or a combination thereof.

(3) Gas turbine exhausts shall not be interconnected with boiler uptakes except for gas turbines used for emergency power and lighting or for emergency propulsion. Dampers or other suitable means shall be installed to prevent backflow of boiler exhaust gases through the turbine. Interconnected exhausts must be specifically approved by the Commandant.

(4) A gas turbine exhaust on a mobile offshore drilling unit must not discharge in a classified location.[1]

(d) *Air inlets.* Air inlets must be designed as follows:

[1] Sections 108.171 to 108.175 of this chapter define classified locations for mobile offshore drilling units.

(1) Each air inlet must have means to protect the safety of life and to prevent the entrance of harmful foreign material, including water, into the system.

(2) A gas turbine air inlet must not be in a classified location.[1]

(e) *Cooling and ventilation.* Means shall be provided for circulating air, either natural or forced, through the engine compartment for cooling and ventilation.

(f) *Automatic shutdown.* (1) The control system shall be designed for automatic shutdown of the engine with actuation of audible and visible alarms at shutdown. The visible malfunction indicator shall indicate what condition caused the shutdown and remain visible until reset. Automatic shutdown shall occur under the following conditions:

(i) Overspeed.

(ii) Low lubricating oil pressure. Consideration will be given providing alarm only (without shutdown) in those cases where suitable antifriction bearings are fitted.

(2) Audible or visible alarms shall also be provided for:

(i) Excessive gas temperature, measured at the turbine inlet, gas generator, interstage turbine or turbine exhaust.

(ii) Excessive lubricating oil temperature.

(iii) Excessive speed.

(iv) Reduced lubricating oil pressure.

(3) A remote, manually operated shutdown device shall be provided. Such device may be totally mechanical or may be electrical with a manually actuated switch.

(g) *Drawings and design data.* Drawings and design data of the following components shall be submitted to substantiate their suitability and safety for the service intended:

(1) Combustion chamber.

(2) Regenerator or recuperator.

(3) Casing or piping conveying the gas from the combustion device to the gas turbine.

(h) *Fuel systems.* Gas turbine fuel systems shall meet the requirements of part 56 of this subchapter.

(i) *Fire extinguishing systems.* A special local fire extinguishing system may be required for gas turbine installations if considered necessary by the Commandant. Such a system would be in addition to any other required in the compartment in which the gas turbine is located.

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGFR 72–59R, 37 FR 6190, Mar. 25, 1972; CGD 73–251, 43 FR 56801, Dec. 4, 1978; CGD 83–043, 60 FR 24776, May 10, 1995; USCG–2003–16630, 73 FR 65187, Oct. 31, 2008]

Subpart 58.16—Liquefied Petroleum Gases for Cooking and Heating

§ 58.16–1 Scope.

(a) This subpart prescribes standards for the use of liquefied petroleum gas for heating and cooking on inspected vessels, except ferries.

(b) It is the intent of the regulations in this subpart to permit liquefied petroleum gas systems of the vapor withdrawal type only. Cylinders designed to admit liquid gas into any other part of the system are prohibited.

(c) Except as provided by § 58.16–7(b), all component parts of the system, except cylinders, appliances, and low pressure tubing, shall be designed to withstand a pressure of 500 pounds per square inch without failure.

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 83–013, 54 FR 6402, Feb. 10, 1989]

§ 58.16–5 Definition.

For the purpose of this subpart the term ''liquefied petroleum gas'' means any liquefied flammable gas which is composed predominantly of hydrocarbons or mixtures of hydrocarbons, such as propane, propylene, butane, butylene, or butadiene, and which has a Reid ASTM D 323 (incorporated by reference, see § 58.03–1). Method of test for Vapor Pressure of Petroleum Products (Reid Method)) vapor pressure exceeding 40 pounds per square inch absolute at 100 °F.

[CGFR 68–82, 33 FR 18878, Dec. 18, 1968, as amended by USCG–2000–7790, 65 FR 58460, Sept. 29, 2000]

[1] Sections 108.171 to 108.175 of this Chapter define classified locations for mobile offshore drilling units.